AMENDMENTS TO THE CLAIMS

Claim 1 (Currently Amended) An ultrasound applicator for applying ultrasound energy to the thoracic cavity comprising

a housing sized for placement in acoustic contact with the thorax,

an ultrasound transducer carried by the housing comprising a transducer including a ~~radiating surface~~ transducer face to generate ultrasound energy at a prescribed fundamental therapeutic frequency laying within a range of fundamental therapeutic frequencies not exceeding about 500 kHz, the transducer face having a periphery and a gravity plane,

a stand-off region spaced outward from and encircling the entire periphery of the transducer face for a set distance below the gravity plane to prevent direct contact between the transducer face and a skin region,

a flexible material overlaying the stand-off region defining a bladder chamber between the flexible material and the transducer face, the flexible material defining an acoustic contact area contacting and conforming to the skin region ~~and an ultrasonic coupling region for the transducer carried by the housing being adapted, in use, to contact skin and being sized~~ to transcutaneously conduct ultrasound energy in a diverging beam that substantially covers an entire heart, ~~the coupling region including a~~

an acoustic coupling media liquid confined within the bladder chamber, and .

a well region extending outward about the entire periphery of the transducer face between the transducer face and the stand-off ~~surrounding the radiating surface~~ and ~~being located at a higher~~ at a position above the gravity plane ~~than the radiating surface~~ to collect away from the transducer face, and without discharge from the bladder chamber, air bubbles forming in the acoustic coupling media liquid to minimize localized skin surface heating effects.

Claim 2 (Currently Amended) An ultrasound applicator ~~for applying ultrasound energy to the thoracic cavity comprising~~ according to claim 1

~~a housing sized for placement in acoustic contact with the thorax,~~

~~an ultrasound transducer including a radiating surface carried by the housing to generate ultrasound energy at a prescribed fundamental therapeutic frequency laying within a range of fundamental therapeutic frequencies not exceeding about 500 kHz, and~~

~~an ultrasonic coupling region for the transducer carried by the housing being adapted, in use, to contact skin and having~~ wherein the acoustic contact area has an effective diameter (D) ~~to transcutaneously conduct ultrasound energy at the prescribed fundamental therapeutic frequency by the transducer, the coupling region including a coupling media~~, and

wherein the transducer ~~having~~ face has an aperture size (AP) not greater than about 5 wavelengths, wherein AP is expressed as AP = D/WL, where WL is the wavelength of the fundamental frequency~~, and~~

~~a well region surrounding the radiating surface and being located at a higher gravity plane than the radiating surface to collect air bubbles forming in the coupling media to minimize localized skin surface heating effects~~.

Claim 3 (Previously Presented) An ultrasound applicator according to claim 1 or 2

further including an assembly worn on the thorax and adapted to be affixed to the housing, to stabilize placement of the housing on the thorax during transcutaneous conduction of ultrasound energy.

Claim 4 (Original) An ultrasound applicator according to claim 1 or 2

wherein the range of fundamental therapeutic frequencies is between about 20 kHz and about 100kHz.

Claim 5 (Original) An ultrasound applicator according to claim 4

wherein the prescribed fundamental therapeutic frequency is about 27 kHz.

Claim 6 (Original) An ultrasound applicator according to claim 1 or 2

wherein the ultrasound transducer is sized to provide an intensity not exceeding 3 watts/cm^2 at a maximum total power output of no greater than 150 watts operating at the prescribed fundamental therapeutic frequency.

Claim 7 (Original) An ultrasound applicator according to claim 6

wherein the range of fundamental therapeutic frequencies is between about 20 kHz and about 100kHz.

Claim 8 (Original) An ultrasound applicator according to claim 7

wherein the prescribed fundamental therapeutic frequency is about 27 kHz.

Claim 9 (Original) An ultrasound applicator according to claim 1 or 2

wherein the housing is sized to allow another device to be placed on the thorax near the applicator.

Claim 10 (Original) An ultrasound applicator according to claim 9

wherein the device includes an ECG electrode device.

Claims 11 to 14 (Canceled)

Claim 15 (Currently Amended) A method for applying ultrasound energy to the thoracic cavity comprising the steps of

providing an ultrasound applicator as defined in claim 1,

placing the ultrasonic coupling region in acoustic contact with skin on the thorax,

operating the ultrasound transducer to generate ultrasound energy ~~at a prescribed fundamental therapeutic frequency laying within a range of fundamental therapeutic frequencies not exceeding about 500 kHz~~, and

transcutaneously conducting the ultrasound energy through the ~~ultrasonic coupling region~~ acoustic contact area ~~in a diverging beam that substantially covers an entire heart~~.

Claim 16 (Currently Amended) A method for applying ultrasound energy to the thoracic cavity comprising the steps of

providing an ultrasound applicator as defined in claim 2,

placing the ultrasonic coupling region in acoustic contact with skin on the thorax,

operating the ultrasound transducer to generate ultrasound energy ~~at a prescribed fundamental therapeutic frequency laying within a range of fundamental therapeutic frequencies not exceeding about 500 kHz~~, and

transcutaneously conducting the ultrasound energy through the ~~ultrasonic coupling region~~ acoustic contact area ~~at the prescribed fundamental therapeutic frequency,~~

~~wherein the transducer has an aperture size (AP) not greater than about 5 wavelengths, wherein AP is expressed as AP = D/WL, where WL is the wavelength of the fundamental frequency, whereby the application of ultrasound energy increases the blood flow of the individual~~.

Claim 17 (Previously Presented) A method according to claim 15 or 16

further including the step of stabilizing the placement of the housing on the thorax.

Claim 18 (Original) A method according to claim 15 or 16

wherein the housing is placed on the chest or near the sternum.

Claim 19 (Original) A method according to claim 15 or 16

wherein the range of fundamental therapeutic frequencies is between about 20 kHz and about 100kHz.

Claim 20 (Original) A method according to claim 19

wherein the prescribed fundamental therapeutic frequency is about 27 kHz.

Claim 21 (Original) A method according to claim 15 or 16

wherein the ultrasound transducer is operated to provide an intensity not exceeding 3 watts/cm^2 at a maximum total power output of no greater than 150 watts operating at the prescribed fundamental therapeutic frequency.

Clam 22 (Original) A method according to claim 21 wherein the range of fundamental therapeutic frequencies is between about 20 kHz and about 100kHz.

Claim 23 (Original) A method according to claim 22 wherein the prescribed fundamental herapeutic frequency is about 27 kHz.